

# Spectral Doppler Questions

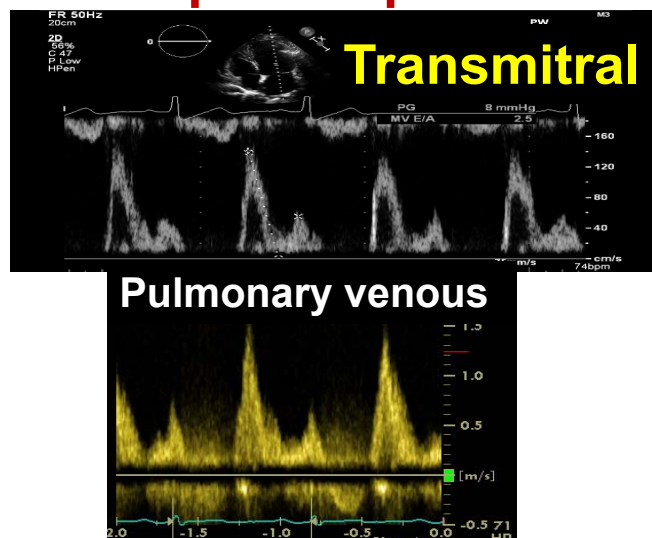
Gerard P. Aurigemma MD  
ASE Board Review Course  
2018

No Relevant Disclosures



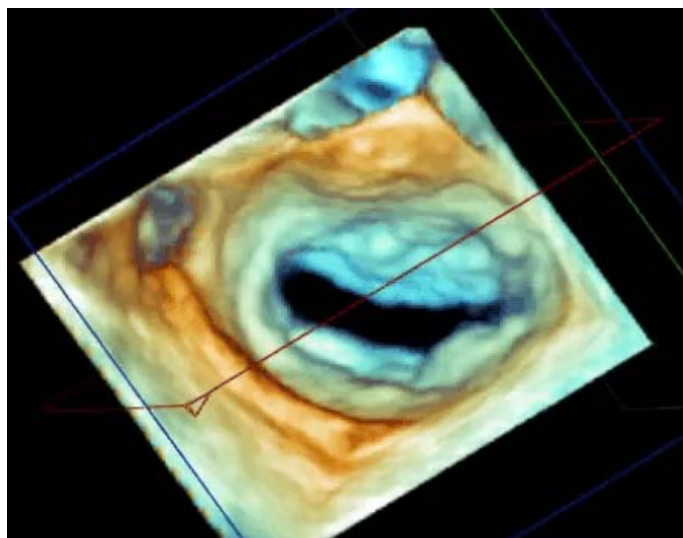
**A 65 year old with MVP and MR. What do you conclude from these spectral profiles?:**

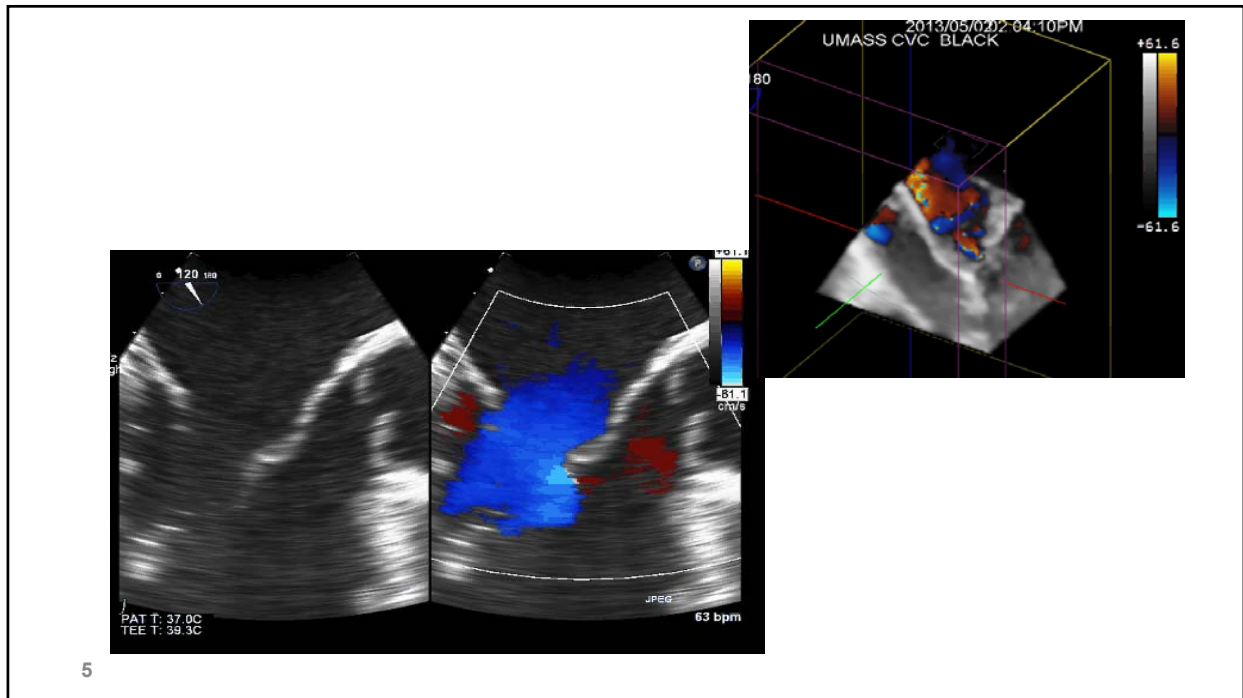
1. He has normal diastolic function
2. The MR is probably not very significant
3. The MR is likely to at least moderate to severe
4. Cannot tell with certainty



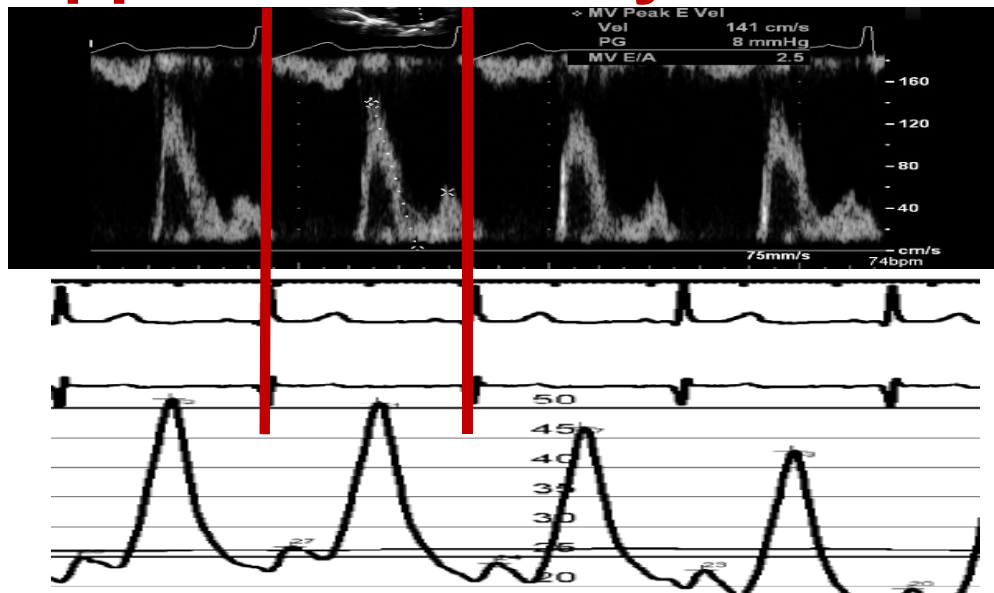


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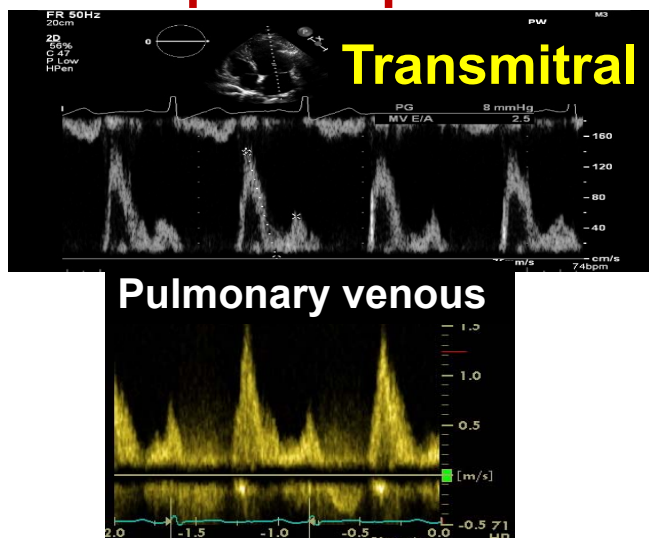


## Doppler + Haemodynamics



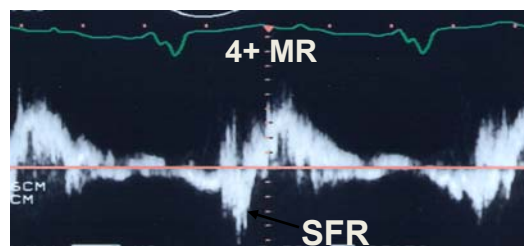
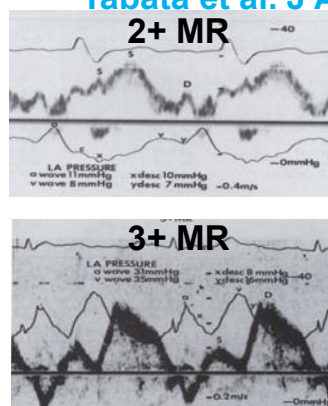
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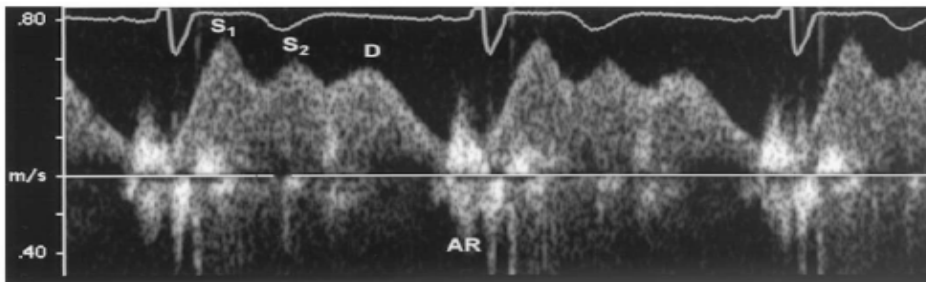
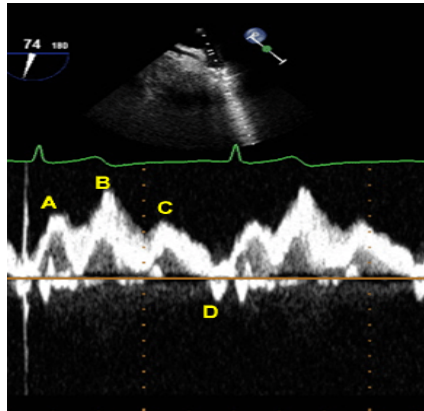
## Pulmonary Vein Flow Profiles in MR

Tabata et al. J Am Coll Cardiol 1992;20:1345

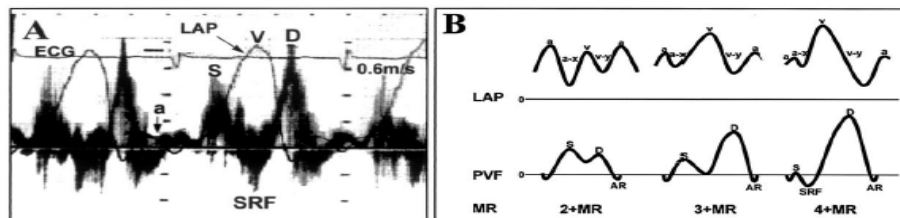


**Which of these waves is due to atrial relaxation?**

1. A
2. B
3. C
4. D



**Normal**

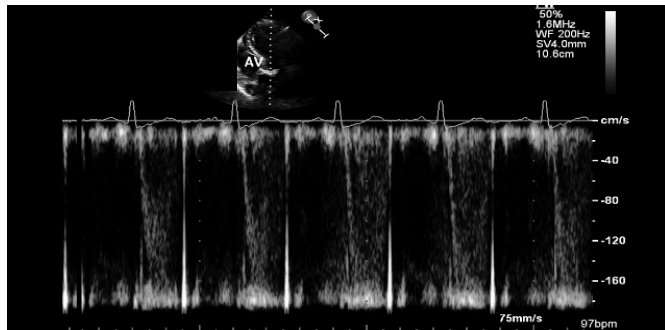


**MR**

*Tabata et al. J Am Coll Cardiol 1992;20:1345*

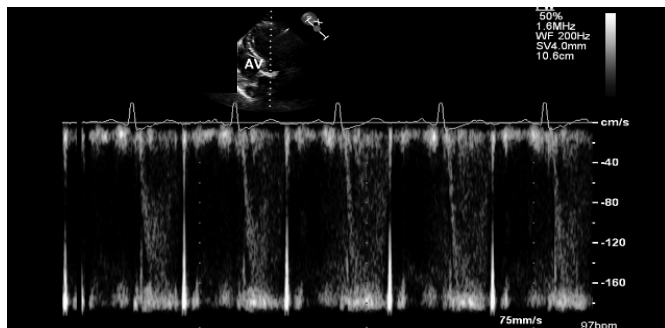
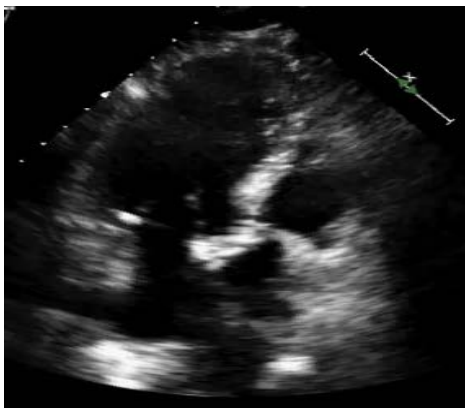
## 85 year old with known AS to calculate AVA you would:

1. Use 1.6 M/s as your V1
2. Cath the patient
3. Give beta blocker then repeat study
4. Send sonographer back to bedside



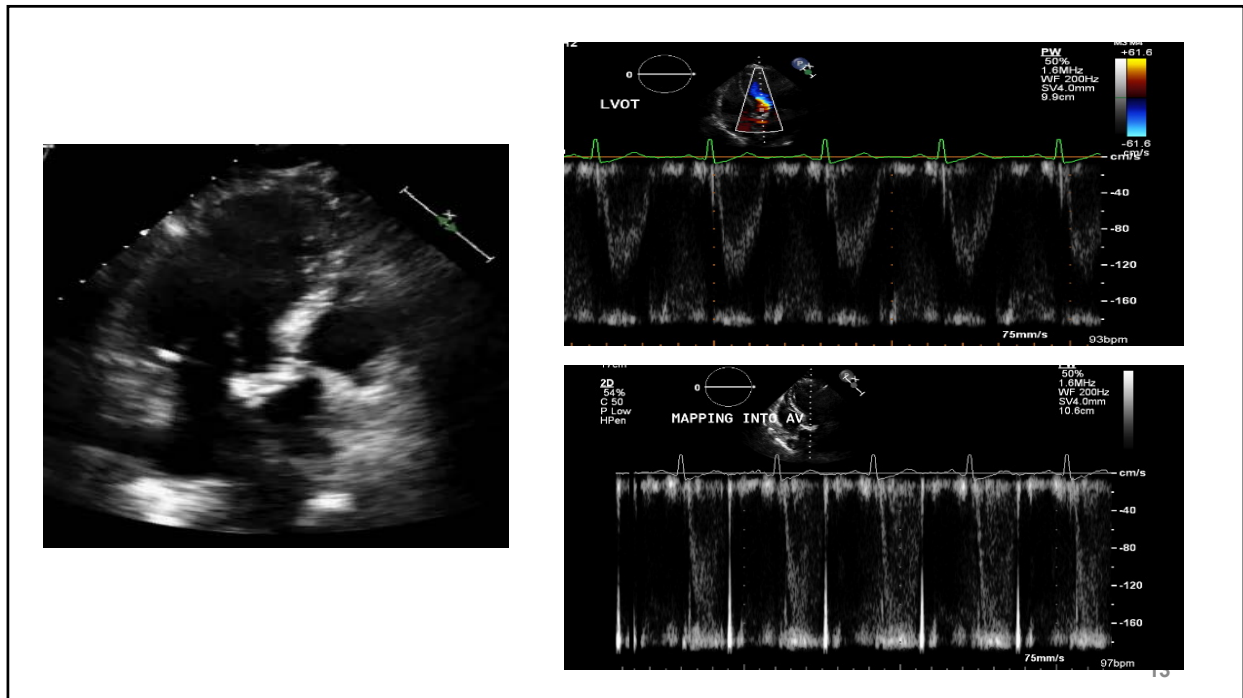
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## 85 year old with known AS



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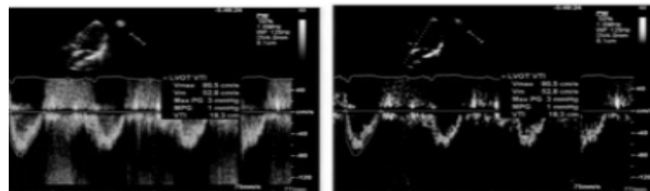
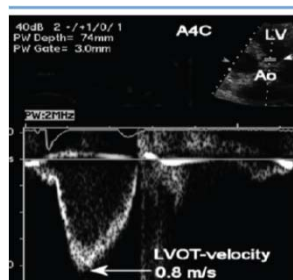




## Technical Considerations

### *Continuity Equation*

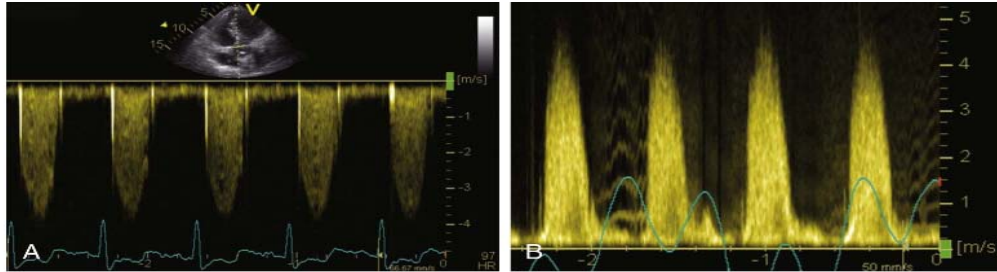
- LVOT velocity
- must use laminar flow
- modal velocity



# Technical Considerations

## Continuity Equation

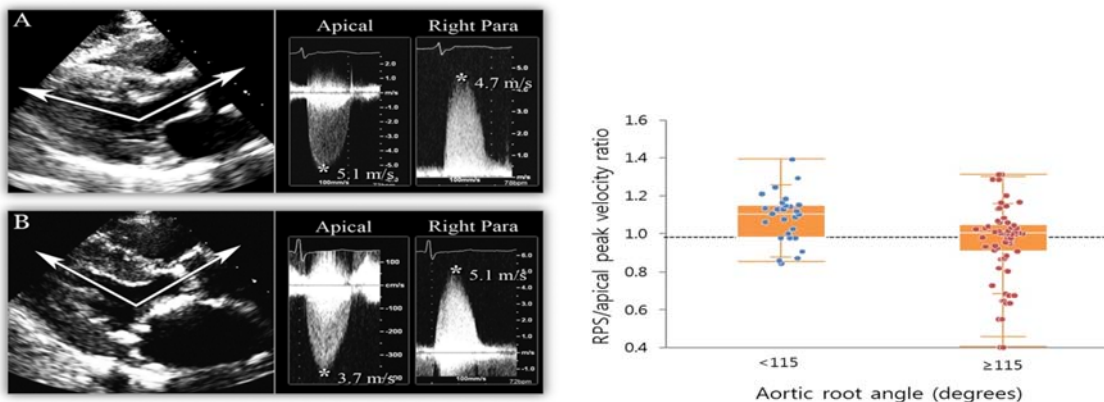
- CW signal



Apical

RPS

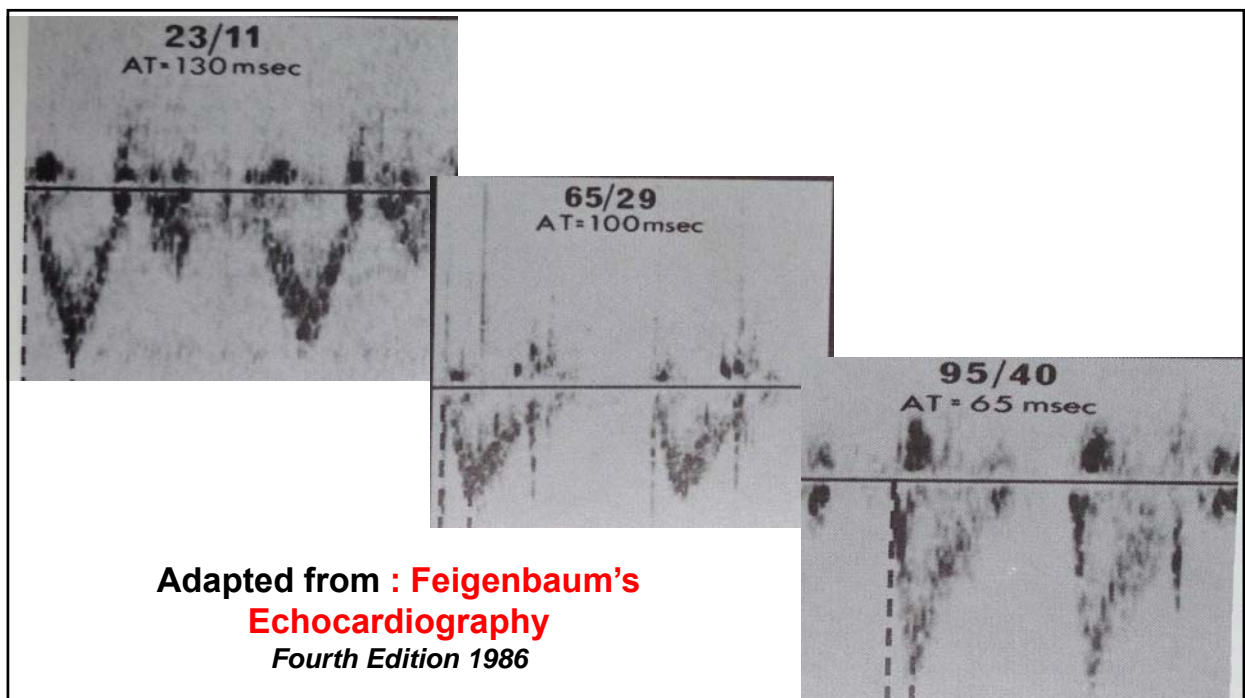
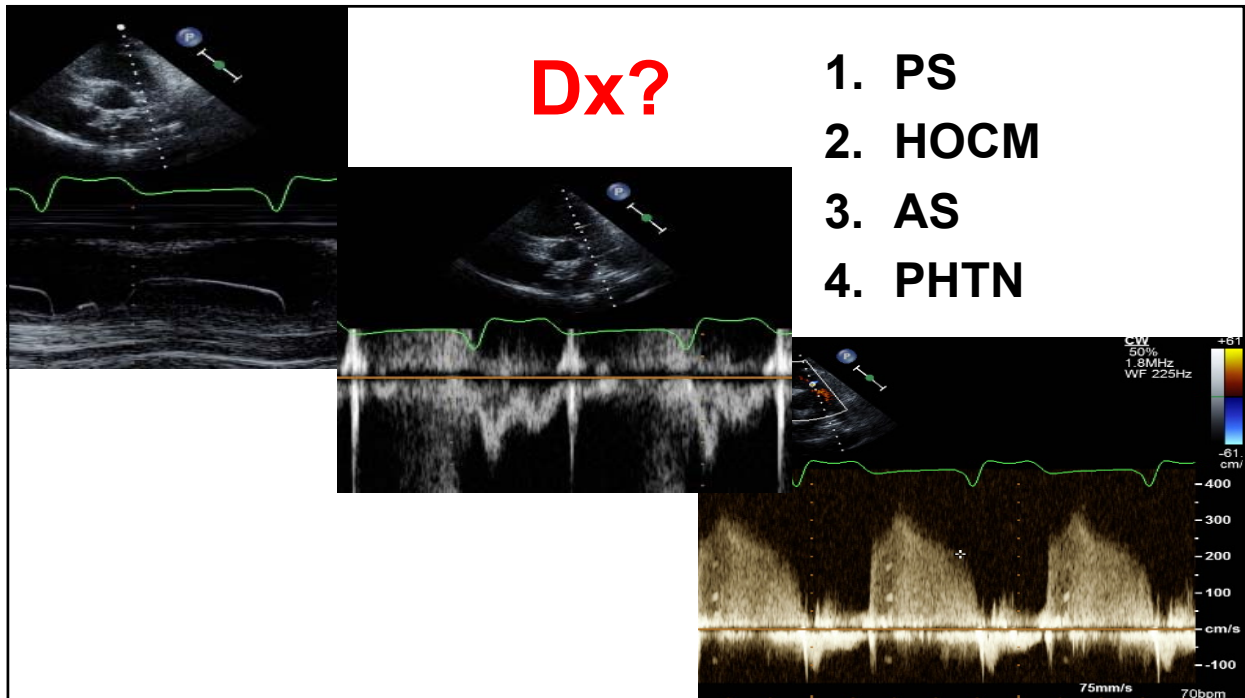
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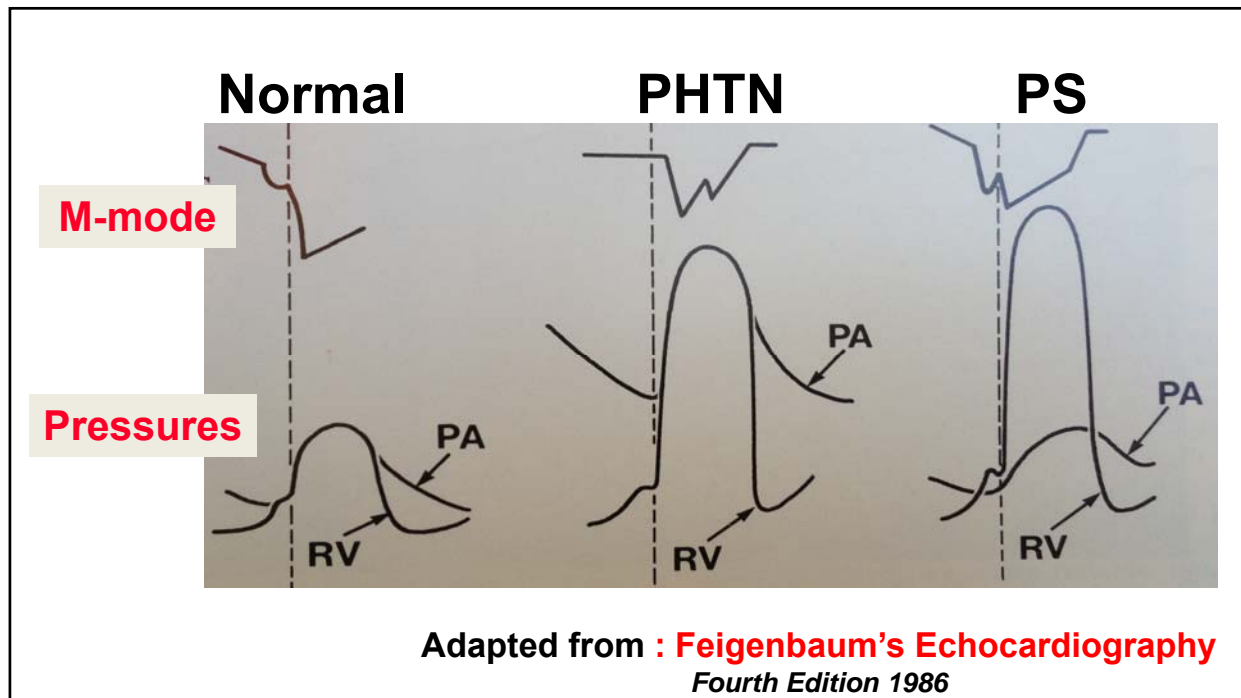


Doppler Imaging in Aortic Stenosis: The Importance of the Nonapical Imaging Windows to Determine Severity in a Contemporary Cohort

Jeremy J. Thaden, MD, Vuyisile T. Nkomo, MD, MPH, Kwang Je Lee, MD, PhD, and Jae K. Oh, MD, Rochester, Minnesota and Seoul, Korea

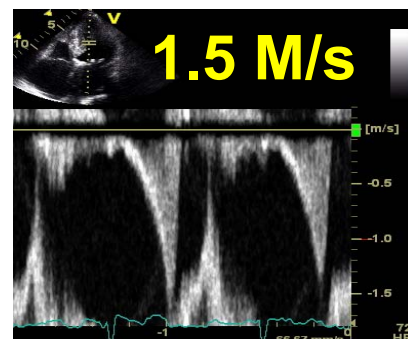







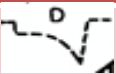

**This spectral profile was obtained by PW in the LV. What can be inferred from this?**

1. The patient has mild HOCM
2. The patient has hypertension
3. The patient has Tako- tsubo
4. There is a small LV, hyperdynamic EF, or both
5. This patient has a bad prognosis



## What can be said about dynamic LV OT obstruction?

1. It is an uncommon complication of DSE
2. It produces anteriorly directed MR
3. It can be seen in anterior MI
4. It is seen in patients undergoing MV repair with a flexible annuloplasty ring
5. It is ameliorated by insertion of an IABP

LVOT	Mid cavity	MR
		
Late peaking	Late peaking	Starts early
Gentle slope	Very sharp	Parabolic
4.5 M/s	Lower velocity than LVOT signal	Can be as high as 8 M/s

